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Amendments to the Specification:

Please replace the paragraph beginning on page 9, line 1, with the following amended paragraph:

Mammalian GLP peptides and glucagon are encoded by the same gene. In the ileum the phenotype is processed into two major classes of GLP peptide hormones, namely GLP-1 and GLP-2. There are four GLP-1 related peptides known which are processed from the phenotypic peptides. GLP-1 (1-37) has the sequence His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly SEQ ID NO:1 (~~SEQ ID NO:1~~). GLP-1 (1-37) is amidated by post-translational processing to yield GLP-1 (1-36) NH₂ which has the sequence His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg (NH₂) SEQ ID NO:2 (~~SEQ ID NO:2~~); or is enzymatically processed to yield GLP-1 (7-37) which has the sequence His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly SEQ ID NO:3 (~~SEQ ID NO:3~~). GLP-1 (7-37) can also be amidated to yield GLP-1 (7-36) amide which is the natural form of the GLP-1 molecule, and which has the sequence His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg (NH₂) SEQ ID NO:4 (~~SEQ ID NO:4~~) and in the natural form of the GLP-1 molecule.

Please replace the paragraph beginning on page 9, line 19, with the following amended paragraph:

Intestinal L cells secrete GLP-1 (7-37) SEQ ID NO:3 (~~SEQ ID NO:3~~) and GLP-1(7-36)NH₂ SEQ ID NO:4 (~~SEQ ID NO:4~~) in a ratio of 1 to 5, respectively. These truncated forms of GLP-1 have short half-lives *in situ*, i.e., less than 10 minutes, and are inactivated by an aminodipeptidase IV to yield Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu

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Val Lys Gly Arg Gly SEQ ID NO:5 (~~SEQ. ID NO:5~~); and Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg (NH₂) SEQ ID NO:6 (~~SEQ. ID NO:6~~), respectively. The peptides Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly SEQ ID NO:5 (~~SEQ. ID NO:5~~) and Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg (NH₂) SEQ ID NO:6 (~~SEQ. ID NO:6~~), have been speculated to affect hepatic glucose production, but do not stimulate the production or release of insulin from the pancreas.

Please replace the paragraph beginning on page 10, line 3, with the following amended paragraph:

There are six peptides in Gila monster venoms that are homologous to GLP-1. Their sequences are compared to the sequence of GLP-1 in Table 1.

TABLE 1

- a. HAEGTFTSDVSSYLEGQAAKEFIAWLVKGR NH₂
- b. HSDGTFTSDLSKQMEEEAVRLFIEWLKNNGGPSSGAPPPS NH₂
- c. DLSKQMEEEAVRLFIEWLKNNGGPSSGAPPPS NH₂
- d. HEGTFTSDLSKQMEEEAVRLFIEWLKNNGGPSSGAPPPS NH₂
- e. HSDATFTA EYSKLLAKLALQKYLE SILGSSTSPRPPS
- f. HSDATFTA EYSKLLAKLALQKYLE SILGSSTSPRPPS
- g. HSDAIFTEEYSKLLAKLALQKYLASILGSRTSPPP NH₂
- h. HSDAIFTQQYSKLLAKLALQKYLASILGSRTSPPP NH₂

- a = GLP-1 SEQ ID NO:4 (~~SEQ. ID NO:4~~).
- b = Exendin 3 SEQ ID NO:7 (~~SEQ. ID NO:7~~).
- c = Exendin 4(9-39)(NH₂) SEQ ID NO:8 (~~SEQ. ID NO:8~~).
- d = Exendin 4 SEQ ID NO:9 (~~SEQ. ID NO:9~~).
- e = Helospectin I SEQ ID NO:10 (~~SEQ. ID NO:10~~).
- f = Helospectin II SEQ ID NO:11 (~~SEQ. ID NO:11~~).
- g = Helodermin SEQ ID NO:12 (~~SEQ. ID NO:12~~).
- h = Q⁸, Q⁹ Helodermin SEQ ID NO:13 (~~SEQ. ID No:13~~).

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Please replace the paragraph beginning on page 10, line 30, with the following amended paragraph:

The major homologies as indicated by the outlined areas in Table 1 are: peptides c and h are derived from d [[b]] and g, respectively. All 6 naturally occurring peptides (a, b, d, e, f and g) are homologous in positions 1, 7, 11 and 18. GLP-1 and exendins 3 and 4 (a, b and d) are further homologous in positions 4, 5, 6, 8, 9, 15, 22, 23, 25, 26 and 29. In position 2, A, S and G are structurally similar. In position 3, residues D and E (Asp and Glu) are structurally similar. In positions 22 and 23 F (Phe) and I (Ile) are structurally similar to Y (Tyr) and L (Leu), respectively. Likewise, in position 26 L and I are structurally equivalent.